

Montana Department of Natural Resources and Conservation
Water Resources Division
Water Rights Bureau

ENVIRONMENTAL ASSESSMENT
For Routine Actions with Limited Environmental Impact

Part I. Proposed Action Description

1. Applicant/Contact name and address: Neslo LLC. 4705 Secret Valley Dr. Billings, MT 59101
2. Type of action: Application for Beneficial Water Use Permit 43Q 30106065
3. Water source name: Groundwater
4. Location affected by project: Section 14 T1S R25E, Yellowstone County
5. Narrative summary of the proposed project, purpose, action to be taken, and benefits: The applicant proposes to divert water from the groundwater, by means of a 56 foot deep well, from January 1 to December 31 at 45 GPM up to 45.82 AF, from a point in the NENESE Section 14 T1S R25E, Yellowstone County, for geothermal heating and cooling use from January 1 to December 31. The place of use is generally located in the NENESE Section 14 T1S R25E, Yellowstone County. Water pumped from the well and circulated through the system would be discharged to a pond from which it would overflow to Hogans Slough. The DNRC shall issue a water use permit if an applicant proves the criteria in 85-2-311 MCA are met.
6. Agencies consulted during preparation of the Environmental Assessment:
(include agencies with overlapping jurisdiction)
Montana Department of Natural Resources and Conservation
Montana Sage Grouse Habitat Conservation Program
Montana Natural Heritage Program
United States Fish and Wildlife Service
United States National Resource Conservation Service

Part II. Environmental Review

1. Environmental Impact Checklist:

PHYSICAL ENVIRONMENT

WATER QUANTITY, QUALITY AND DISTRIBUTION

Water quantity - The source of supply is groundwater and therefore is not listed as dewatered. Modeling of the availability of groundwater in the area indicates availability of water.

Determination: Not applicable

Water quality - The source of supply is groundwater and therefore is not listed as impaired. The proposed project will not affect surface water quality.

Determination: Not applicable

Groundwater - The proposed project will draw water from a large region of the Yellowstone alluvial aquifer. Modeling indicates that the available water in the aquifer is greater than all legal demands. The proposed use is non-consumptive with the exception of minor evaporation from the discharge pond. However, because water removed from the aquifer is returned to surface water, 45.82 AF of water would be removed from the aquifer. Use of the groundwater for geothermal heating and cooling has little possibility of affecting groundwater quality. Department hydrogeologists have determined that Hogans Slough downstream of the project may be depleted by this appropriation in an amount up to 0.09 AF/Month (approximately 0.66 GPM). Flows in Hogans Slough are estimated at a minimum of 2.73 CFS (1225 GPM). DNRC hydrogeologists have determined that no existing water rights will experience significant drawdown due to the proposed project.

Determination: No significant impact

DIVERSION WORKS - The means of diversion is a submersible pump in a well 55 feet deep. The well is in place and was drilled by a licensed well contractor. No channel or flow changes will occur, no riparian areas will be impacted and no dams or barriers are proposed.

Determination: No significant impact

UNIQUE, ENDANGERED, FRAGILE OR LIMITED ENVIRONMENTAL RESOURCES

Endangered and threatened species – According to the Montana Natural Heritage Program there are no plant species of concern in the project area. Nine animal species of concern include the Townsend's Big-eared bat, the Spotted Bat, the Great Blue Heron, the Pinyon Jay, the Spiny Softshell, the Plains Hog-nosed Snake, the Western Milksnake, the Greater Short-horned Lizard and the Sauger. Use of a well to provide water to a geothermal heating and cooling system will not affect any habitat for mammals, birds, reptiles, or fish. No barriers to movement or migration would be created. The project is not within Sage Grouse habitat as mapped by the Montana Sage Grouse Habitat Conservation Program.

Determination: No significant impact

Wetlands – There are several wetlands and associated ponds in the general area of the project although none are mapped by the United States Fish and Wildlife Service. Groundwater used for geothermal heating and cooling would not impact wetland resources.

Determination: No significant impact

Ponds - There are several wetlands and associated ponds in the general area of the project and a new pond was created and will be used for discharge from the proposed system. Existing wildlife, waterfowl and fishery resources are likely to benefit from the new pond. No existing ponds are altered or removed as a result of this project.

Determination: No significant impact

GEOLOGY/SOIL QUALITY, STABILITY AND MOISTURE – According to the United States National Resource Conservation Service the dominant soil type in the project area is Haverson and Lohmiller soils with 0 to 4% slopes. The geothermal system will not affect local soils in any way.

Determination: No impact

VEGETATION COVER, QUANTITY AND QUALITY/NOXIOUS WEEDS – The existing vegetative cover is untended crop and pasture land upon which the Applicant has built an orthodontics facility. The geothermal system has no effect on vegetation and will not spread or establish noxious weeds.

Determination: No impact

AIR QUALITY – The only effect on air quality of the proposed project is to lessen emissions from electrical generating facilities or natural gas furnaces that would be required for heating and cooling in the absence of the project.

Determination: Possible positive impact

HISTORICAL AND ARCHEOLOGICAL SITES – The project site is not located on State or Federal Lands.

Determination: Not applicable

DEMANDS ON ENVIRONMENTAL RESOURCES OF LAND, WATER, AND ENERGY – The only environmental demand not mentioned above is the continued transition of agricultural land to urban uses. The project represents a small number of acres and is entirely surrounded by urbanized parcels.

Determination: No significant impact

HUMAN ENVIRONMENT

LOCALLY ADOPTED ENVIRONMENTAL PLANS AND GOALS – The local environmental plans and goals are represented by City of Billings building codes and zoning. The project is consistent with zoning and codes.

Determination: No significant impact

ACCESS TO AND QUALITY OF RECREATIONAL AND WILDERNESS ACTIVITIES – The project is located in a densely populated urban area on a heavily trafficked street in a development with few through going routes. No wilderness areas or recreational activities can be accessed through the project area.

Determination: No impact

HUMAN HEALTH – The geothermal system poses no adverse effect to human health.

Determination: No impact

PRIVATE PROPERTY - *Assess whether there are any government regulatory impacts on private property rights.*

Yes___ No__X_ If yes, analyze any alternatives considered that could reduce, minimize, or eliminate the regulation of private property rights.

Determination: Not applicable

OTHER HUMAN ENVIRONMENTAL ISSUES - *For routine actions of limited environmental impact, the following may be addressed in a checklist fashion.*

Impacts on:

- (a) Cultural uniqueness and diversity? No significant impact
- (b) Local and state tax base and tax revenues? No significant impact
- (c) Existing land uses? No significant impact
- (d) Quantity and distribution of employment? No significant impact
- (e) Distribution and density of population and housing? No significant impact
- (f) Demands for government services? No significant impact
- (g) Industrial and commercial activity? No significant impact
- (h) Utilities? No significant impact
- (i) Transportation? No significant impact
- (j) Safety? No significant impact
- (k) Other appropriate social and economic circumstances? No significant impact

2. *Secondary and cumulative impacts on the physical environment and human population:*

Secondary Impacts: No secondary impacts are recognized.

Cumulative Impacts: The area of the proposed project is in the south part of Billings, MT and is subject to rapid growth and development. To the west subdivisions are being developed continuously and businesses are being built to serve the nearby Interstate exit ramp. The project has little environmental impact in comparison to the surrounding growth. No current water right applications are pending within the local area.

3. ***Describe any mitigation/stipulation measures:*** None
4. ***Description and analysis of reasonable alternatives to the proposed action, including the no action alternative, if an alternative is reasonably available and prudent to consider:*** The only reasonable alternative to the project is a no action alternative. The no action alternative would require the orthodontic facility to use electric or gas heating and cooling systems rather than an environmentally friendly geothermal system. There are no significant environmental benefits to the no action alternative.

PART III. Conclusion

1. ***Preferred Alternative:*** Issue a water use permit if an applicant proves the criteria in 85-2-311 MCA are met.

2. ***Comments and Responses:*** None

3. ***Finding:***
Yes___ No__**X**_ Based on the significance criteria evaluated in this EA, is an EIS required?

If an EIS is not required, explain why the EA is the appropriate level of analysis for this proposed action: The Environmental Assessment found no significant environmental issues related to the proposed project and is the appropriate level of analysis.

Name of person(s) responsible for preparation of EA:

Name: Mark Elison

Title: Hydrologist

Date: 8/17/2016